

DEQ in the Classroom:

Recycling Relay



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ENVIRONMENTAL
QUALITY

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Grade Level:

Pre-K - 3

Time Required:

Approximately 30 minutes; more if you complete optional step 13 (reading a book).

Objective:

To introduce students to the concepts of reuse and recycle and to help them understand that trash doesn't just "go away" or disappear when it leaves their homes.

Meets State Standards:

Grade K: K.S.1.7.1, K.S.1.8.1, K.LA.6.1.1, K.LA.6.1.3, K.LA.6.2.2, K.LA.6.1.1, K.LA.6.1.3

Grade 1: 1.S.1.7.1, 1.S.1.8.1

Grade 2: 2.S.1.7.1, 2.S.1.8.1, 2.LA.6.1.3

Grade 3: 3.S.5.1.1, 3.S.5.3.1, 3.LA.6.1.3

Focus:

Solid waste, reuse, recycle.

Materials:

- 7 "recycling bins." Can be real recycling bins, cardboard boxes, plastic tubs, etc.
 - 3 clean trash cans (kitchen or office size work well; not big outdoor garbage cans).
 - Tape.
 - Items that can be recycled/reused. Minimum of 2 each of the following:*
- | | |
|-----------------|----------------------|
| Plastic bottles | Aluminum cans |
| Newspapers | Batteries |
| Cardboard | Articles of clothing |
| Toys | |

(The above items will be used for a relay race. There will be two teams and each team will have one set of items to sort for recycling/reuse. Therefore, you will need at least two of each item [one for each team], and you will need enough items so that every student will have one item to sort for the race.)

- Pictures of each of the recyclables listed above (print from pages 8 - 14). If you choose to use different recyclables, find pictures to match.
- Picture of "trash" (print from page 15).
- Pictures of "recycle" and "reuse" (print from page 16 - 17).
- Picture of the recycling symbol (print from page 18).
- Picture of a landfill (print from page 19).

Materials Continued on page 2.

*Other recyclable items (glass, printer paper, phone books, etc.) may be used instead. For recyclables (as opposed to items to be reused), pick items that are accepted for recycling in your community.

Pick items that students can relate to, such as clothing their size, age-appropriate toys, cardboard and plastic from items they use, etc.

Materials, cont.

- Trash items. Have enough for one per student in the class. Suggested items: candy bar wrapper, broken toy, unbroken toy, wax paper, pen that is out of ink, printer paper used on one side, plastic grocery bag, birthday card, newspaper, aluminum can, water bottle, etc. Make sure all items are “clean” (e.g., rinse and dry cans, no used tissues, no organic matter, etc.) Have a mix of items that can be reused, can be recycled, and have to be thrown away.
- Samples of items made from recycled products, such as recycled content paper, recycled denim pencils (get from DEQ), recycled content litter bags (get from DEQ), recycled content cat litter, and a fleece jacket. *Check packaging to find paper and cat litter made from recycled content. Many fleece items are made from recycled soda bottles, but clothing labels do not indicate whether specific items were or not; you can discuss with the students that the fleece jacket may have once been a soda bottle.*
- Samples of items that have been/can be reused, such as paper that is printed on one side (make a grocery list or draw a picture on the other side), reusable/reused grocery bags, greeting cards made into gift tags (bring a card and the end result), etc.
- Oscar the Grouch puppet (optional). For sale in many toy stores and available on-line at <http://store.sesameworkshop.org/category/show/376>.

Background:

According to the U.S. EPA, an average of 4.5 pounds of solid waste (trash) is produced per person per day in the United States. Trash that is not reused or recycled is sent to a landfill. Our landfills are becoming full. The faster our population grows, the faster our landfills fill up. If we need more land for landfills for our trash, there is less land available for other uses, such as parks and farms. There are many things individuals (even children) can do to reduce the amount of trash sent to landfills: not create waste in the first place, reduce the amount of waste created, reuse products, and recycle those products that can't be reused. This activity focuses on what young children can do to recycle and reuse products.

Vocabulary:

Landfill	An area of land in which wastes are placed for permanent disposal. A landfill is regulated by the government and is designed to protect the environment from the impacts of the wastes that are placed there.
Pollution	Something that contaminates (hurts, makes dirty) the natural environment; usually a result of human activities.
Recycle(ing)	Transforming waste materials into useable resources (e.g., sending used newspaper to the recycler to be made into new newsprint).
Reduce(ing)	Using less so that less waste or pollution is generated (e.g., packaging a gift to use as little wrapping paper as possible). <i>Note: “Reduce” is not a concept discussed in this activity, but is the third “leg” of reduce/reuse/recycle.</i>
Reuse(ing)	Using something again to avoid generating the waste that is created by throwing something away and replacing it with something new (e.g., using gift bags over and over).
Trash	Something that gets disposed of.
Waste	Any material (solid, liquid, or contained gas) that is discarded, recycled, reused, or considered inherently waste-like. (Trash)

Procedure:

Ahead of time:

- A. Print out pictures from pages 8 – 19.
- B. Fill one of the trash cans with the trash you brought. (See bullet labeled “Trash items” in the Materials section on page 2.) Tape the “trash” picture on the front.
- C. Tape the seven pictures of the recyclables onto the front of each of the seven recycling bins.
- D. Set five of the recycling bins aside.
- E. Tape the “recycle” and “reuse” pictures on the back of the remaining two recycling bins. (These two bins will serve double duty and be used for two parts of the activity; they will have pictures on both the front and the back.)
- F. Divide the recyclables you brought with you into two identical or similar groups for the relay and put one group of recyclables into each of the remaining (unlabeled) trash cans. (See bullet labeled “Items that can be recycled/reused” in the Materials section on page 1.)

Intro

Step 1. Have students sit in a semi-circle on the floor, with you at the front.

Step 2. Ask students what “trash” is. After you get their definition (meld it into something appropriate), ask how many students have seen the trash collector come to pick up the trash from their homes. *For very young students (preschoolers), consider using an Oscar the Grouch puppet to deliver this part of the message. These puppets are for sale on-line (<http://store.sesameworkshop.org/category/show/376>) and in many toy stores.*

Step 3. Ask the students where they think trash goes after the truck takes it away. Discuss the concept of a landfill and that trash doesn’t just disappear. It ends up somewhere and takes up a lot of space. Show the picture of the landfill you printed from page 19. *A good analogy to use is to relate throwing trash away to the students cleaning their bedrooms. If they “clean” their rooms by stuffing everything under the bed (trash being taken away by a truck), it looks clean, but now the area under their bed is full of stuff (landfill). All they did was to move the “trash” and fill up someplace else; the “trash” didn’t just disappear.*

Step 4. Pull out the trash can (the one labeled “trash,” from step B, above) that you filled ahead of time.

Step 5. Dump the contents of the trash can in the middle of the circle. Ask students to reach in and each grab one piece of trash. *Be sure there is at least one piece of trash per student; be sure all trash is clean.*

Step 6. Talk to the students about how not all “trash” has to be “trash.” Some of it can still be used. This keeps that “trash” out of the landfill. This is good because we don’t want our landfills to fill up any faster than necessary. Discuss the concepts of reuse and recycle and show examples (see definitions and example ideas, next page).

Discuss the recycling symbol and show what it looks like (show the picture you printed from page 18). Also show them the recycling symbol on one of the items you have for the activity (e.g., a plastic bottle) and ask students if they have seen the recycling symbol on things at home.

As you discuss these concepts, place the trash (the one labeled “trash”) can *and* the two recycling bins that have signs on *both* sides (from step E, above) in the center of the circle. Place the recycling bins so that the students can see the “recycle” and “reuse” signs and *not* the other signs on the back.

Reuse: Using something over again.

- This is good because it keeps trash out of the landfill, keeps new things from having to be made, saves materials used for making things (e.g., fewer trees have to be cut down to make paper), and saves money (fewer things to buy).
- Examples include using old popsicle sticks for art projects, using the back of used paper for drawing or writing, using grocery bags again and again, and giving old toys or clothes to a sibling, friend, or charity, or selling at a garage sale.
- **Show samples of things that have been reused.** (e.g., canvas grocery bags, the back of paper reused for something else, etc. See “Materials” on page 2 for additional ideas of samples.)

Recycle: Making something old into something new.

- This is good because it keeps trash out of the landfill and saves materials used for making things (e.g., fewer trees have to be cut down to make new paper).
- Placing things such as aluminum cans, plastic bottles, and newspapers in recycling bins means they get picked up and made into new things.
- If your community has curbside pick-up of recyclables, ask students if anyone has seen the recycling trucks come to pick up the items.
- **Show samples of things made of recycled products.** (e.g., recycled paper, carpet made from recycled plastic, etc. See “Materials” on page 2 for additional ideas of samples.)

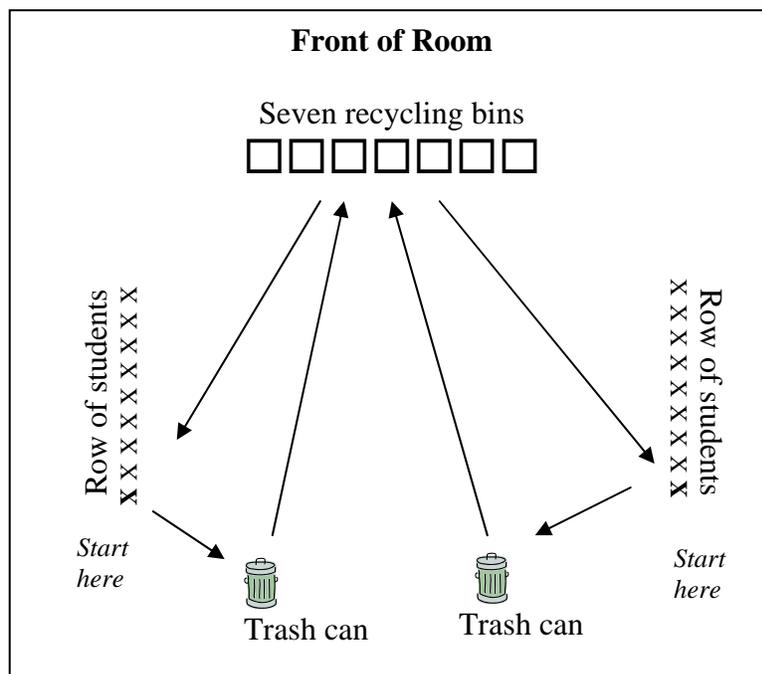
Step 7. Going around the circle of students, have students show what piece of trash they picked and help them decide whether it can be reused, recycled, or must be thrown away. Have them put their “trash” in the appropriate place in the center of the circle—trash can, recycle bin, or reuse bin. *Remember to have items that fit in each of these three categories.*

Step 8. Set the trash can aside. Discuss with the students how items that can be recycled and reused often go to different places, so they have to be sorted. Empty the “recycle” and “reuse” bins in front of you, then turn those bins around so the signs on the other side now show. Set the other five recycling bins (from step D, “Ahead of Time”) with them, so the seven are in a row at the front of the room (the seven bins will say/have pictures of batteries, newspapers, cardboard, old toys, aluminum cans, old clothes, plastic bottles). Discuss what goes into each bin (what the pictures mean) and as you do so, place a few of the items you dumped out in the appropriate bins. **Point out that some of the items could potentially be reused (e.g., old clothes), some could potentially be recycled (e.g., aluminum cans) and some could potentially be both/either (e.g., cardboard).** *Remove the remaining items from the floor.*

Relay

Step 9. Explain to the students that they are going to have a relay race. Divide the class into two teams of equal size. Have each team sit in a row parallel to the race course. Place the trash cans without any labels containing the items you brought for the relay (from step F, “Ahead of Time,”) at the back of the room near the ends of the rows. *See diagram below.*

Step 10. Explain the rules. The first student in each row will pick a piece of “trash” out of his/her team’s trash can. That student will then run to the front of the room with the piece of trash, decide which bin it belongs in, put it in the right bin, then run back and tag the next person in line. The next person will then repeat the process until all the trash is gone and all students have had a turn. No one can go until the person in front of them has placed their trash in the correct bin and comes back to tag their classmates. Be sure to have the same number of items as students so everyone gets one turn.



Step 11. Have the relay race. Teachers/presenters help students get their products in the right bins and help make sure students tag each other, etc. and follow the rules.

Wrap-Up

Step 12. Have students sit in their semi-circle again to re-cap. Use the Questions for Discussion, page 6.

Step 13. (Optional). Read a book about recycling to the class.*

See Assessment/Follow-Up Suggestions (page 6), for ideas on craft and other projects to accompany this activity.

*Potential books include *Recycle! A Handbook for Kids*, by Gail Gibbons, *Where Does the Garbage Go?* By Paul Showers, *Why Should I Recycle?* By Jen Green, and *The Wartville Wizard* by Don Madden. Be sure to review all books to assure the content is appropriate for your community and the age of your students.

Questions for Discussion

- 1. Why do we care about trash, recycling, and reusing?** *Look for answers relating to landfills and using fewer resources.*
- 2. What does it mean to recycle something -- what happens after you put something in a recycling bin? What does it mean to reuse something?** *Recycle: Look for answers that relate to taking something old and making something new out of it. Reuse: Look for answers relating to using something again or giving to someone else to use again. For both, the concept of not throwing something away but putting to a good use is also a good answer.*
- 3. What are some things you use at your home or that we use at school that you could (or do) recycle?** *Look for answers such as aluminum cans, newspaper, printer paper, etc.*
- 4. What are some things you have at your home that can be reused?** *Look for answers such as old toys and clothes, paper only printed on one side, materials for art projects, bows and gift wrap/gift bags, etc.*

Assessment/Follow-Up Suggestions:

- Complete “DEQ Kids: Let’s Talk Trash: What to do With the Garbage in Your Home.” Available for download at http://www.deq.idaho.gov/waste/educ_tools.cfm, Student Resources, or from your DEQ regional office.
- Bring in old Christmas or birthday cards and have students use them to create new gift tags.
- Buy inexpensive tote bags and have students decorate them to give to Mom or Dad for use as reusable grocery bags, or buy reusable lunch bags and have them decorate for themselves. These can be found at craft shops or online at sites such as <http://www.orientaltrading.com>. (*DEQ does not endorse Oriental Trading Company or any other vendor. This Web site is given as an example only.*)
- Have your students make art projects from reused materials. Many ideas are available on the Web from sites such as <http://www.kinderart.com/recycle>. (*DEQ does not endorse KinderArt or any other vendor. This Web site is given for as an example only.*)
- Arrange to have your class watch the garbage and/or recycling being picked up from your school. If possible, arrange for the trash/recycling collector to stay a few minutes for the students to ask him/her questions.
- Take a field trip to a recycling center or landfill. Or, invite a guest speaker from your local recycling center or landfill.
- If your school has a recycling program, visit its recycling bins or get a bin for your class.
- Have students bring in products from home. Look for the recycling symbol. Discuss which products can be recycled. Look at labels to see which products were made with recycled content.
- If your school has a recycling program, create posters to hang around the school reminding staff and students to recycle.
- Check into local charities that accept used goods for resale. Collect used goods from students to donate.

Additional Resources:

DEQ Kids: Let's Talk Trash: What to do With the Garbage in Your Home (DEQ activity booklet)

http://www.deq.idaho.gov/waste/educ_tools.cfm, Student Resources

EPA Environmental Kids Club: Garbage and Recycling (U.S. EPA Web site)

<http://www.epa.gov/kids/garbage.htm>

Pollution Prevention (DEQ Web site)

http://www.deq.idaho.gov/multimedia_assistance/p2/overview.cfm

Recycling in Idaho (DEQ Web site)

<http://www.deq.idaho.gov/waste/recycling/recycling.cfm>

Waste Management Educational Tools (DEQ Web site)

http://www.deq.idaho.gov/waste/educ_tools.cfm

Waste Management and Remediation: Programs and Issues (DEQ Web site)

http://www.deq.idaho.gov/waste/prog_issues.cfm



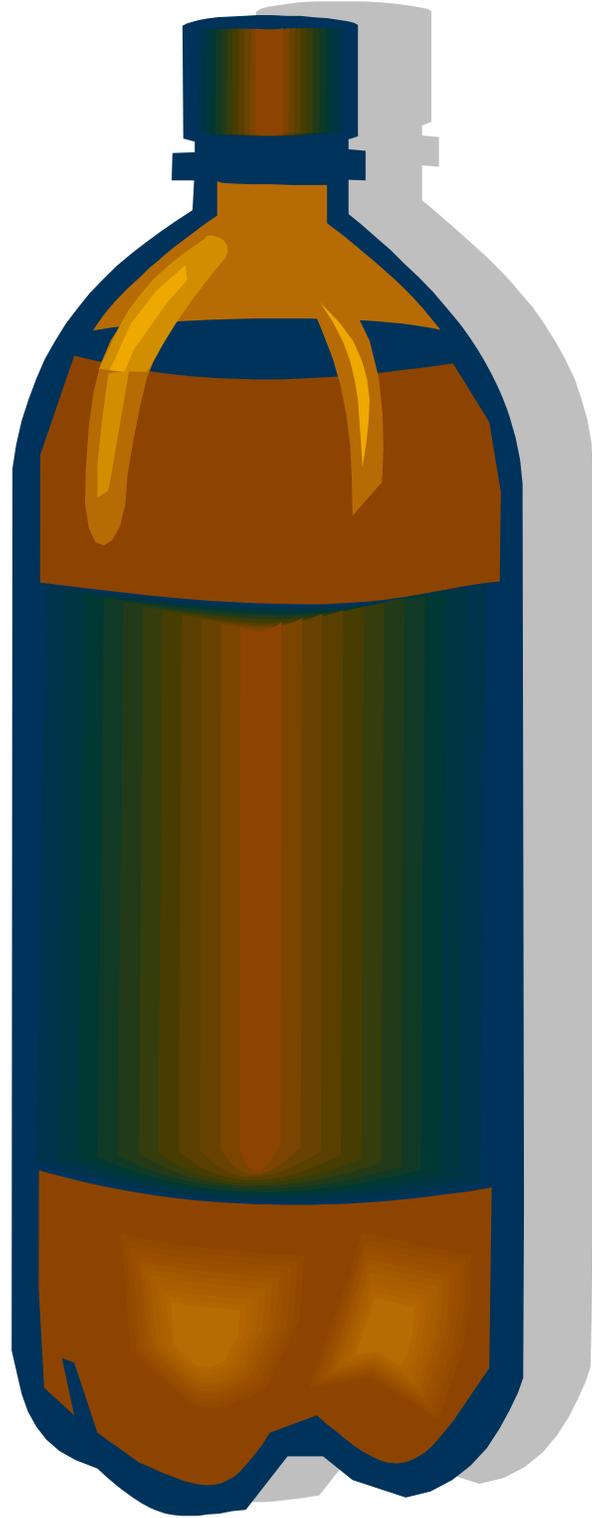
Batteries



Newspapers



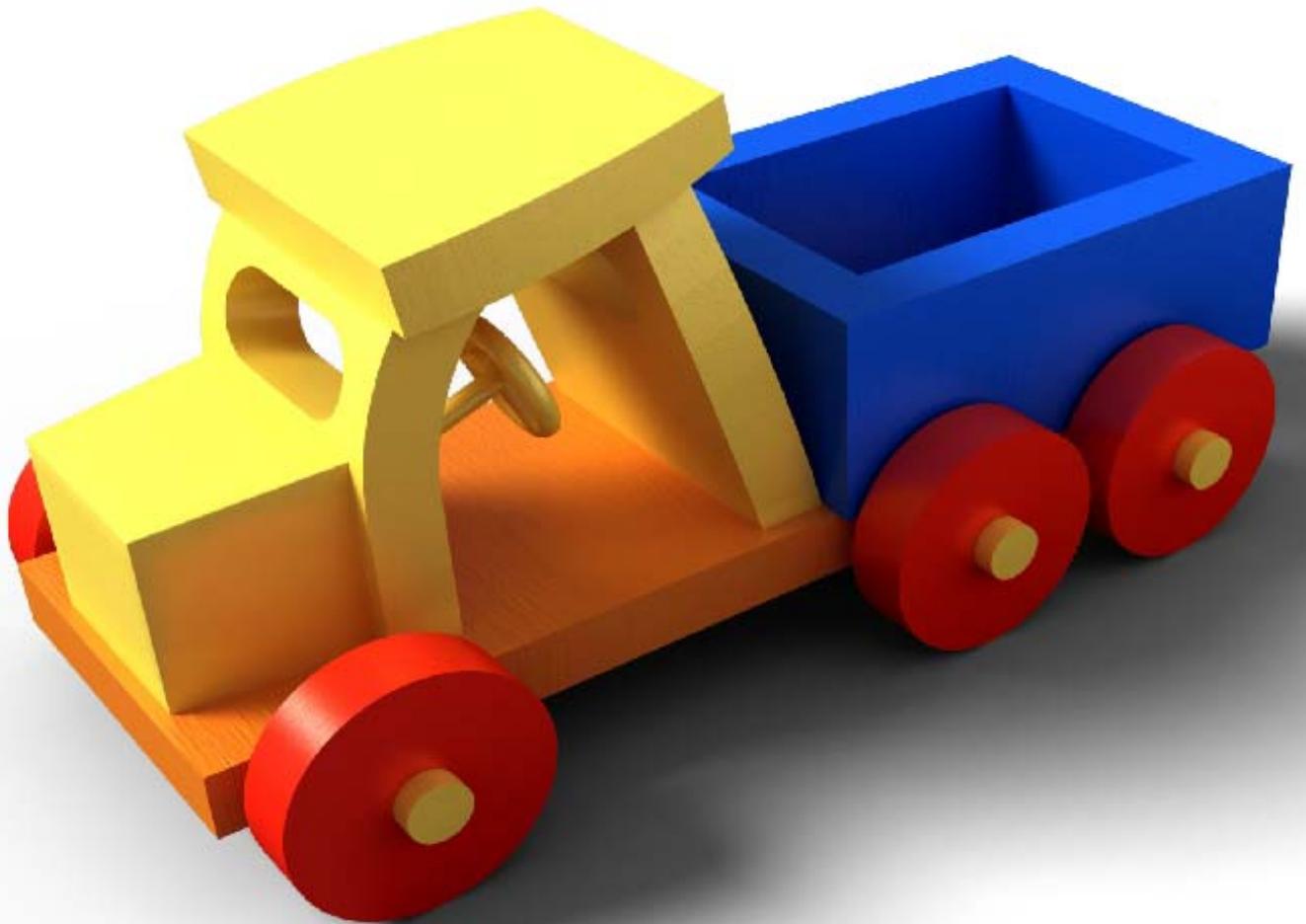
Cardboard



Plastic Bottles



Aluminum Cans



Old Toys



Old Clothes



Trash



Recycle



Reuse



Recycling Symbol



Landfill